

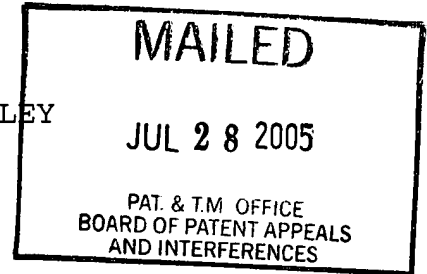
The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFFREY DAVID SHELLEY
and KURTIS L. BROWN

Appeal No. 2005-1386
Application No. 10/010,620



ON BRIEF

Before GARRIS, WALTZ, and TIMM, **Administrative Patent Judges**.
WALTZ, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's refusal to allow claims 7 through 11, 13, 15 through 25, 27, and 29 through 38, as amended subsequent to the final rejection (see the amendment dated Jan. 20, 2004, entered as per the Advisory Action dated Feb. 3, 2004; the amendment dated Dec. 18, 2003, was refused entry by the examiner in the Advisory Action dated Jan. 15, 2004; see the Brief, page 2). Claims 7-11, 13, 15-25, 27 and 29-38 are the only claims pending in this application. We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to a method of making a lofty nonwoven fabric laminate and the corresponding article (Brief, pages 3-4). Appellants state that the claims should be considered in two groups (Brief, page 5). Accordingly, to the extent of appellants' separate arguments, we consider claims 7 and 21 as representative of Groups 1 and 2, respectively. See 37 CFR § 1.192(c)(7)(2003); Answer, page 2, ¶ (7). Illustrative independent claims 7 and 21 are reproduced below:

7. A method of making a lofty nonwoven fabric laminate in a single, in-line process, comprising steps in the order of:

- a) depositing a first layer of filaments onto a wire;
- b) bonding the first layer to an integrity sufficient to withstand high speed web transfer;
- c) depositing a second layer of crimped homofilament fibers connected to the first layer while the first layer remains on the wire;
- d) traversing the second layer of crimped homofilament fibers through a flow of heated air at a temperature, flow rate, and traversal rate sufficient to set the crimps of the fibers without substantial melt bonding or relaxation of the fibers and to provide an integrity sufficient to withstand high speed web transfer; and
- e) bonding the heat set second layer and the first nonwoven layer in a manner having sufficient integrity to withstand high speed web transfer.

21. A lofty nonwoven fabric laminate comprising:

a first nonwoven layer having sufficient integrity to withstand high speed web transfer;

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a lofty, second nonwoven layer having stable, uncompacted crimped homofilament fibers substantially free of melt bonding and having sufficient integrity to withstand high speed web transfer; and

the second nonwoven layer and the first nonwoven layer bonded with sufficient integrity to withstand high speed web transfer.

The examiner has relied on the following references as evidence of obviousness:

Kane et al. (Kane)	4,359,445	Nov. 16, 1982
Arnold et al. (Arnold)	5,707,468	Jan. 13, 1998

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Arnold in view of Kane (Answer, page 3). We *affirm* the examiner's rejection of product claims 21-25, 27 and 29-38 essentially for the reasons stated in the Answer and our reasons set forth below. We *reverse* the examiner's rejection of process claims 7-11, 13 and 15-20 essentially for the reasons stated in the Brief, Reply Brief, and those reasons set forth below. Accordingly, the decision of the examiner is *affirmed-in-part*.

OPINION

The examiner finds that Arnold discloses a method of making a nonwoven fabric comprising depositing a nonwoven layer such as a spunbonded nonwoven onto a belt, subjecting it to a hot air knife (HAK) in order to impart sufficient structural integrity to the layer for further processing, and depositing additional nonwoven

layers onto the first nonwoven fabric (Answer, page 3). The examiner also finds that Arnold teaches that the layers of the nonwoven fabric may be subjected to more substantial bonding (*id.*). The examiner further finds that Arnold teaches that compacted fabrics are less desirable because of their decrease in bulk or loft, and that use of a HAK prevents compacting the nonwoven and results in a particularly lofty nonwoven (*id.*).

The examiner recognizes that Arnold fails to teach that "some of the layers should comprise crimped homopolymeric continuous fibers." *Id.* The examiner applies Kane for the teaching that particularly lofty nonwoven fabrics may be formed by extruding crimpable homopolymeric continuous fibers and then heat treating the fibers to crimp them (Answer, sentence bridging pages 3-4). From these findings, the examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of appellants' invention to have formed the fabric of Arnold with additional layers of crimped homopolymeric fibers of Kane to produce a particularly lofty web (Answer, page 4).

With regard to the product claims, appellants argue that the references lack any suggestion for such a combination of the laminate of Arnold with the lofted mat fibers of Kane (Brief, page 6). Appellants also argue that Arnold gives no teaching with

respect to the desirability of loft for any additional layers while Kane teaches a self supporting web with no lamination to a base layer (Reply Brief, paragraph bridging pages 2-3).

Appellants' arguments are not persuasive. As correctly noted by the examiner (Answer, page 4), Arnold is directed towards producing lofty nonwoven fabrics which comprise spunbonded nonwoven fabrics which may be combined with additional fabric layers while Kane teaches that crimped, homopolymeric fibers produce particularly lofty nonwoven fabrics. See Arnold, col. 1, ll. 26-27, where it is taught that a drawback to conventional compaction is the decrease in bulk or loft in the fabric. See also Arnold, col. 1, ll. 39-43, where the object of the invention of Arnold is stated as providing a nonwoven web with enough integrity for further processing without the use of compaction rolls. Finally, see Arnold at col. 7, ll. 1-25, where it is taught that the fabric of Arnold may be used in multilayer laminates of spunbond and other fibers, including the separate production of fabric layers later combined in a bonding step. Kane teaches a crimped filament layer that forms a lofted mat having much greater bulk and loft (col. 1, ll. 53-59), with the entanglements between filaments during crimping imparting integrity to the lofted mat (col. 7, ll. 5-7). Accordingly, we agree with the examiner that it would have been

obvious to one of ordinary skill in this art at the time of appellants' invention to combine the lofted mat of Kane as an additional layer in the multilayer laminate of Arnold to produce a particularly desired lofty product of Arnold as well as enhance the structural integrity of the product for further processing.

Therefore we affirm the examiner's rejection of the product claim 21, and claims 22-25, 27, and 29-38 which stand or fall with claim 21, under section 103(a) over Arnold in view of Kane.

With regard to the process claims, we note that the examiner has not set forth any rationale for this rejection in the statement of the rejection (Answer, pages 3-4). However, in the "Response to Argument" section (Answer, page 5), the examiner states that the rejection does not rely on the HAK of Arnold for crimping but that the claims could be interpreted as having the fibers already crimped by the process of Kane *before* being deposited on the substrate of Arnold. Although we agree with the examiner that the second layer of crimped homofilament fibers in step (c) of claim 7 includes already crimped fibers, we determine that the examiner has failed to establish that step (d) of claim 7 was disclosed or suggested by the combination of Arnold and Kane (see the Reply Brief, pages 4-5). The examiner has not found that Kane discloses or suggests a crimp-setting step (see the Answer in its entirety).

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The examiner has also not established that the HAK heating step of Arnold would even be applied to any additional crimped, lofted layer (Arnold, col. 7, ll. 21-24), much less shown that the HAK heating step of Arnold would be "sufficient to set the crimps" as required by step (d) of claim 7. For the foregoing reasons, we cannot sustain the examiner's rejection of claim 7, and claims 8-11, 13, and 15-20 which stand or fall with claim 7, under section 103(a) over Arnold in view of Kane.

We note that the telephone interviews alluded to by appellants (Reply Brief, page 3) are not of record in this application. Upon the return of this application to the jurisdiction of the examiner, the examiner and appellants should ensure a complete record of any interviews. See *MPEP*, § 713.04, 8th ed., p. 700-200, Rev. 2, May 2004.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (2004).

AFFIRMED-IN-PART

BRADLEY R. GARRIS
Administrative Patent Judge

Thomas A. Waltz)
THOMAS A. WALTZ)
Administrative Patent Judge)

BOARD OF PATENT
APPEALS
AND
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CATHERINE TIMM
Administrative Patent Judge

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